

WHAT IS CLAIMED IS:

1. A control system for controlling the operation of an auxiliary device installed in a vehicle, the system comprising:

a controller communicating with a vehicle controller for monitoring and controlling operation of an auxiliary device subsystem and a vehicle subsystem; and

a plurality of sensors communicating with the controller for providing output communications thereto, the sensors comprising vehicle sensors relative to the vehicle subsystem and auxiliary sensors relative to the auxiliary device subsystem.

2. The control system of claim 1 wherein the controller comprises a microprocessor including auxiliary device control logic to coordinate operation of the auxiliary device subsystem and vehicle subsystem relative to one or more output communications from the sensors.

3. The control system of claim 1 wherein the auxiliary device comprises a wheelchair ramp.

4. The control system of claim 1 wherein the auxiliary device comprises a wheelchair lift including a platform having inboard and outboard rollstops, wherein the rollstops are coupled with the platform at opposing ends thereof for moving between a generally vertical barrier orientation and a generally horizontal orientation.

5. The control system of claim 4 wherein the plurality of sensors includes an occupancy sensor for detecting an occupancy state of the platform and sending an output signal indicative of the occupancy state to the controller, the controller operating to inhibit stowage of the wheelchair lift if the platform is occupied.

6. The control system of claim 4 wherein the plurality of sensors includes an inboard rollstop position sensor for detecting the orientation of the inboard rollstop and sending an output signal indicative of the orientation of the inboard rollstop to the controller, the controller operating to inhibit raising of the platform if the inboard rollstop is generally horizontal.

7. The control system of claim 4 wherein the plurality of sensors includes an outboard rollstop position sensor for detecting the orientation of the outboard rollstop and sending an output signal indicative of the orientation of the outboard rollstop to the controller, the controller operating to inhibit movement of the platform if the outboard rollstop is generally horizontal.

8. The control system of claim 4 wherein the plurality of sensors includes an outboard rollstop occupancy sensor for detecting the occupancy state of the outboard rollstop and sending an output signal indicative of the occupancy state of the outboard rollstop to the controller, the controller operating to inhibit movement of the outboard rollstop if the outboard rollstop is occupied.

9. The control system of claim 4 wherein the plurality of sensors includes an inboard rollstop position sensor for detecting the orientation of the inboard rollstop and sending an output signal indicative of the orientation of the inboard rollstop to the controller, the controller operating to inhibit movement of the inboard rollstop if the inboard rollstop is occupied.

10. The control system of claim 4 wherein the plurality of sensors includes:
a threshold occupancy sensor for detecting the occupancy state of a threshold area proximate a vehicle doorway and sending an output signal indicative of the occupancy state of the threshold area to the controller;

a lift position sensor for detecting an elevation of the platform and sending an output signal indicative of the elevation of the platform if other than an elevation of the threshold area; and

wherein the controller is linked with an indicator that operates to output a warning in response to the threshold occupancy sensor detecting an occupied state of the threshold area and a platform elevation other than at the vehicle threshold elevation.

11. The control system of claim 1 further comprises a lighting control module in communication with the controller that is operative to activate an illuminating means for illuminating the auxiliary device.

12. The control system of claim 4 further comprising a motor control module linked with the controller for outputting a pulse width modulated signal that controls the operation of a motor.

13. The control system of claim 12 wherein the plurality of sensors includes a speed sensor and an acceleration sensor coupled with the motor for detecting the speed and acceleration, respectively, of the wheelchair lift, the speed and acceleration sensors each sending output signals to the controller so that the controller may cooperate with the lift motor control module to vary the pulse width modulated signal for enabling speed and acceleration feedback control of the wheelchair lift.

14. The control system of claim 12 wherein the plurality of sensors includes an audio sensor for detecting a noise level relative to an operation of the wheelchair lift, the controller communicating with the motor control module to vary a speed and acceleration of the operation, thereby decreasing the noise level within the vehicle.

15. The control system of claim 4 further comprising an incremental counter linked with the controller for providing an indication of the usage of the lift, the counter incrementing relative to a full operation cycle of the lift.

16. The control system of claim 1 further comprising a user interface linked with the controller, the user interface comprising a master power control actuator operative to turn the auxiliary device on and off.

17. A method for controlling a mobility auxiliary device having an interlock that prevents an unsafe operation of the auxiliary device, the method comprising the steps of:

receiving a user input relative to a requested operation of the mobility auxiliary device;
delaying the requested operation of the mobility auxiliary device; and
verifying that conditions of the interlock relative to the requested operation have been satisfied.

18. The method of claim 17 wherein the verifying step comprises:

receiving an output signal from a sensor relative to the interlock; and
comparing the output signal with a known output signal from the sensor that
is indicative of a safe operating condition.

19. The method of claim 17 further comprising the step of providing an
indication of a state of the interlock.

20. The method of claim 17 further comprising the step of providing a warning
that the conditions of an interlock relative to the requested operation have not been satisfied.

21. The method of claim 19 wherein the providing step comprises providing one
or more of a visual warning and an audible warning if the interlock state is active.

22. A control system for controlling the operation of a mobility access device,
the system comprising:

a controller for receiving a user input relative to a requested operation of the
mobility access device; and

a plurality of sensors coupled with the mobility access device, the sensors
communicating with the controller for sending output communications relative to a status of
the mobility access device to the controller.

23. The control system of claim 22 wherein the mobility access device comprises
a wheelchair ramp.

24. The control system of claim 22 wherein the mobility access device comprises
a wheelchair lift including a platform having inboard and outboard rollstops, wherein the
rollstops are coupled with the platform at opposing ends thereof for moving between a
generally vertical barrier orientation and a generally horizontal orientation.

25. The control system of claim 24 further comprising an interlock
communicating with the controller to prevent at least a portion of the requested operation
unless one or more conditions relative to the output communications have been satisfied.

26. The control system of claim 25 wherein the plurality of sensors includes an occupancy sensor for detecting an occupancy state of the platform and sending an output signal indicative of the occupancy state to the controller, the interlock operating to inhibit stowage of the wheelchair lift if the platform is occupied.

27. The control system of claim 25 wherein the plurality of sensors includes an inboard rollstop position sensor for detecting the orientation of the inboard rollstop and sending an output signal indicative of the orientation of the inboard rollstop to the controller, the interlock operating to inhibit raising of the platform if the inboard rollstop is generally horizontal.

28. The control system of claim 25 wherein the plurality of sensors includes an outboard rollstop position sensor for detecting the orientation of the outboard rollstop and sending an output signal indicative of the orientation of the outboard rollstop to the controller, the interlock operating to inhibit movement of the platform if the outboard rollstop is generally horizontal.

29. The control system of claim 25 wherein the plurality of sensors includes an outboard rollstop occupancy sensor for detecting the occupancy state of the outboard rollstop and sending an output signal indicative of the occupancy state of the outboard rollstop to the controller, the interlock operating to inhibit movement of the outboard rollstop if the outboard rollstop is occupied.

30. The control system of claim 25 wherein the plurality of sensors includes an inboard rollstop position sensor for detecting the orientation of the inboard rollstop and sending an output signal indicative of the orientation of the inboard rollstop to the controller, the interlock operating to inhibit movement of the inboard rollstop if the inboard rollstop is occupied.

31. A controller for operating a wheelchair lift installed in a vehicle, the wheelchair lift and vehicle each including subsystems having a plurality of sensors for sensing a state of the subsystems, the controller comprising:

a control circuit having interlock logic that provides safe operation of the wheelchair lift relative to one or more states of the subsystems;

a first interface module coupled with the control circuit for providing a plurality of output signals from the sensors to the control circuit; and

a second interface module coupling an indicator with the control circuit for providing a wheelchair lift subsystem state.

32. The controller of claim 31 wherein the first interface module comprises:

a communication module linked with a vehicle communication bus and operative to intercept vehicle communications between the vehicle controller and a vehicle subsystem, the communication module relaying an intercepted communication to the control circuit; and

a sensor input module linked with a plurality of sensors coupled with the wheelchair lift subsystems.

33. The controller of claim 31 wherein the control circuit comprises a processing unit.

34. The controller of claim 33 wherein the processing unit comprises a microprocessor.